Abstract

A device for electronic detection of a target includes a probe, e.g. an oligonucleotide, attached to a pad of resistive material, wherein the pad is adjacent a first electrode and also is adjacent a second electrode. In use, the probe is contacted with a sample containing the target, e.g. a target nucleic acid, under conditions and for a time sufficient to allow target to bind the probe. An enhancement reaction is then applied to result in a change in an observable property of the device. The observable property is then monitored using measurement apparatus operably associated with the device. Typically, multiple devices will be present on an array of devices, allowing multiplex analysis of multiple different targets using a single array of devices.